

IFW

AVSL 0010 P1 (108328.00154)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Louis C. Smith et al.,

Serial No.: 10/657,725

Filed: 09/08/2003

For: **CONSTANT CURRENT ELECTROPORATION DEVICE AND METHODS
OF USE**

Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

<p>CERTIFICATE OF MAILING UNDER 37 CFR 1.8: I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P. O. Box 1450, Alexandria, VA 22313-1450 on August 13, 2004.</p> <p><i>M. Alford</i> _____ Signature</p> <p><i>M. ALFORD</i> _____ Typed or Printed name of person signing Certificate</p>
--

INFORMATION DISCLOSURE STATEMENT

This information disclosure statement (IDS) submitted herewith is being filed before the mailing date of a first Office Action under 37 C.F.R. § 1.97(b).

Respectfully submitted,
JACKSON WALKER L.L.P.

T. Ling Chwang

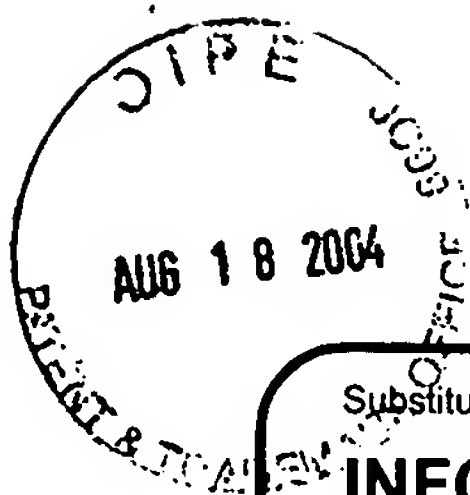
T. Ling Chwang
Registration No. 33,590

August 13, 2004

Dated:

JACKSON WALKER L.L.P.
2435 North Central Expressway, Suite 600
Richardson, Texas 75080
Tel: (972) 744-2919
Fax: (972) 744-2909

3627137v1 108328/00154



Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 1 of 3 Sheets

Complete if Known

Application Number	10/657,725
Filing Date	09/08/2003
First Named Inventor	Smith, Louis C., et al.
Group Art Unit	
Examiner Name	
Attorney Docket Number	AVSI-0010 P1(108328.00154)

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
	1.	US 5,676,646	10/14/1997	Hofmann et al.,	Entire Patent
	2.	US 5,702,359	12/30/1997	Hofmann et al.,	Entire Patent
	3.	US 6,068,650	05/30/2000	Hofmann et al.,	Entire Patent
	4.	US 6,096,020	08/01/2000	Hofmann et al.,	Entire Patent
	5.	US 6,120,493	09/19/2000	Hofmann et al.,	Entire Patent
	6.	US 6,150,148	11/21/2000	Nanda et al.,	Entire Patent
	7.	US 6,181,964	06/30/2001	Hofmann et al.,	Entire Patent
	8.	US 6,192,270	02/20/2001	Hofmann et al.,	Entire Patent
	9.	US 6,208,893	03/27/2001	Hofmann et al.,	Entire Patent
	10.	US 6,216,034	04/10/2001	Hofmann et al.,	Entire Patent
	11.	US 6,233,482	05/15/2001	Hofmann et al.,	Entire Patent
	12.	US 6,241,701	06/05/2001	Hofmann et al.,	Entire Patent
	13.	US 6,302,874	10/16/2001	Zhang et al.,	Entire Patent
	14.	US 10/360,768	03/07/2002	Westersten et al.,	Entire Application
	15.	US 578,611	03/09/1897	Rively	Entire Patent
	16.	US 2,223,447	12/03/1940	Hathaway	Entire Patent
	17.	US 2,239,432	04/22/1941	Stratton	Entire Patent
	18.	US 2,827,851	03/25/1958	Ferrara	Entire Patent
	19.	US 2,970,545	02/07/1961	Howe	Entire Patent
	20.	US 3,060,923	10/30/1962	Reiner	Entire Patent

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				

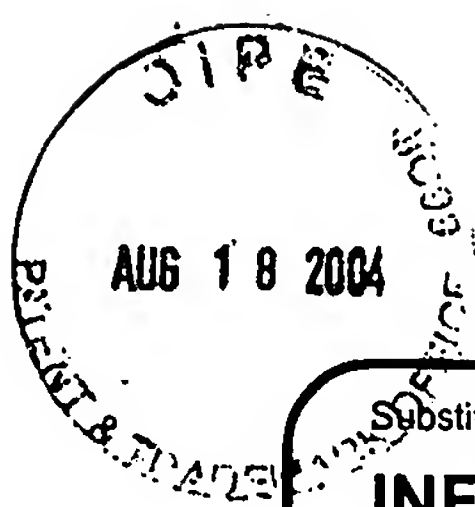
Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04.

³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 2 of 3 Sheets

Complete if Known

Application Number	10/657,725
Filing Date	09/08/2003
First Named Inventor	Smith, Louis C., et al.
Group Art Unit	
Examiner Name	
Attorney Docket Number	AVSI-0010 P1(108328.00154)

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
	21.	US 3,078,850	02/26/1963	Schein et al.,	Entire Patent
	22.	US 3,087,486	04/30/1963	Kilpatrick	Entire Patent
	23.	US 3,162,592	12/22/1964	Pohl	Entire Patent
	24.	US 3,224,436	12/21/1965	Massena	Entire Patent
	25.	US 3,313,293	04/11/1967	Chesebrough et al.,	Entire Patent
	26.	US 3,568,660	03/09/1971	Crites et al.,	Entire Patent
	27.	US 3,682,162	08/08/1972	Colyer	Entire Patent
	28.	US 3,834,392	09/10/1974	Lampman et al.,	Entire Patent
	29.	US 3,900,020	08/19/1975	Lock	Entire Patent
	30.	US 4,016,886	04/12/1977	Doss et al.,	Entire Patent
	31.	US 4,155,363	05/22/1979	Letchworth et al.,	Entire Patent
	32.	US 4,237,896	12/09/1980	Lines	Entire Patent
	33.	US 4,262,672	04/21/1981	Keif	Entire Patent
	34.	US 4,476,004	10/09/1984	Pohl	Entire Patent
	35.	US 4,524,770	06/25/1985	Orandi	Entire Patent
	36.	US Re. 32,057	12/31/1985	LeVeen	Entire Patent
	37.	US 4,663,292	05/05/1987	Wong et al.,	Entire Patent
	38.	US 4,786,505	11/22/1988	Lovgren et al.,	Entire Patent
	39.	US 4,822,470	04/18/1989	Chang	Entire Patent
	40.	US 4,850,956	07/25/1989	Bontemps	Entire Patent
	41.	US 4,969,468	11/13/1990	Byers et al.,	Entire Patent
	42.	US 4,970,154	11/13/1990	Chang	Entire Patent

FOREIGN PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				

Examiner
Signature

Date
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04.

³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.



Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 3 of 3 Sheets

Complete if Known

Application Number	10/657,725
Filing Date	09/08/2003
First Named Inventor	Smith, Louis C., et al.
Group Art Unit	
Examiner Name	
Attorney Docket Number	AVSI-0010 P1(108328.00154)

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
	43.	US 5,019,034	05/28/1991	Weaver et al.,	Entire Patent
	44.	US 5,137,817	08/11/1992	Busta et al.,	Entire Patent
	45.	US 5,273,525	12/28/1993	Hofmann	Entire Patent
	46.	US 5,389,069	02/14/1995	Weaver	Entire Patent
	47.	US 5,439,440	08/08/1995	Hofmann	Entire Patent
	48.	US 5,462,520	10/31/1995	Hofmann	Entire Patent
	49.	US 5,464,386	11/07/1995	Hofmann	Entire Patent
	50.	US 5,468,223	11/21/1995	Mir	Entire Patent
	51.	US 5,501,662	03/26/1996	Hofmann	Entire Patent
	52.	US 5,507,724	04/16/1996	Hofmann et al.,	Entire Patent
	53.	US 5,545,130	08/13/1996	Hofmann et al.,	Entire Patent
	54.	US 5,580,859	12/03/1996	Felgner et al.,	Entire Patent
	55.	US 5,628,728	05/13/1997	Tachibana et al.,	Entire Patent
	56.	US 5,688,233	11/18/1997	Hofmann et al.,	Entire Patent
	57.	US 5,702,359	12/30/1997	Hofmann et al.,	Entire Patent
	58.	US 5,704,908	01/06/1998	Hofmann et al.,	Entire Patent
	59.	US 5,727,808	03/17/1998	Broughton	Entire Patent
	60.	US 5,810,762	09/22/1998	Hofmann	Entire Patent
	61.	US 5,859,327	01/12/1999	Dev et al.,	Entire Patent
	62.	US 5,869,326	02/09/1999	Hofmann	Entire Patent

FOREIGN PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				

Examiner
SignatureDate
Considered

* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04.

³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet

4

of

3 Sheets

Complete if Known

Application Number

10/657,725

Filing Date

09/08/2003

First Named Inventor

Smith, Louis C., et al.

Group Art Unit

Examiner Name

Attorney Docket Number

AVSI-0010 P1(108328.00154)

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
	63.	US 5,873,849	02/23/1999	Bernard	Entire Patent
	64.	US 5,944,710	08/31/1999	Dev et al.,	Entire Patent
	65.	US 5,968,006	10/19/1999	Hofman	Entire Patent
	66.	US 6,006,130	12/21/1999	Higo et al.,	Entire Patent
	67.	US 6,110,161	08/29/2000	Mathiesen et al.,	Entire Patent
	68.	US 6,241,701 B1	06/05/2001	Hofmann	Entire Patent
	69.	US 6,259,946 B1	07/10/2001	Higo et al.,	Entire Patent
	70.	US 6,278,895 B1	08/21/2001	Bernard	Entire Patent
	71.	US 6,300,108 B1	10/09/2001	Rubinsky et al.,	Entire Patent
	72.	US 6,314,316 B1	11/06/2001	Gilbert et al.,	Entire Patent
	73.	US 2002/0025578 A1	02/28/2002	MacLaughlin et al.,	Entire Patent
	74.	US 2002/0038112 A1	03/28/2002	Mathiesen et al.,	Entire Patent
	75.	US 2002/0198485 A1	12/26/2002	Dev et al.,	Entire Patent
	76.				
	77.				
	78.				
	79.				
	80.				
	81.				
	82.				

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				

Examiner
SignatureDate
Considered

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04.

³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

Substitute for form 1449A/PTO

**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 5 of 3 Sheets

Complete if Known

Application Number	10/657,725
Filing Date	09/08/2003
First Named Inventor	Smith, Louis C., et al.
Group Art Unit	
Examiner Name	
Attorney Docket Number	AVSI-0010 P1(108328.00154)

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	83.	CANATELLA, P. J. and M. R. Prausnitz. 2001. Prediction and Optimization of Gene Transfection and Drug Delivery by Electroporation. Gene Ther. 8:1464-9.	/
	84.	DEAN, D. A., D. Machado-Aranda, K. Blair-Parks, A. V. Yeldandi, and J. L. Young. 2003. Electroporation as a method for high-level nonviral gene transfer to the lung. Gene Ther. 10:1608-1615.	/
	85.	DRAGHIA-AKLI, R., K. K. Cummings, A. S. Khan, P. A. Brown, and R. H. Carpenter. 2003a. Effects of plasmid-mediated growth hormone releasing hormone supplementation in young healthy Beagle dogs. Journal of Animal Science 81:2301-2310.	/
	86.	DRAGHIA-AKLI, R., K. M. Ellis, L. A. Hill, P. B. Malone, and M. L. Fiorotto. 2003b. High-efficiency growth hormone releasing hormone plasmid vector administration into skeletal muscle mediated by electroporation in pigs. FASEB J 17:526-528.	/
	87.	DRAGHIA-AKLI, R., M. L. Fiorotto, L. A. Hill, P. B. Malone, D. R. Deaver, and R. J. Schwartz. 1999. Myogenic expression of an injectable protease-resistant growth hormone-releasing hormone augments long-term growth in pigs. Nat. Biotechnol. 17:1179-1183.	/
	88.	DRAGHIA-AKLI, R., A. S. Khan, K. K. Cummings, D. Parghi, R. H. Carpenter, and P. A. Brown. 2002. Electrical Enhancement of Formulated Plasmid Delivery in Animals. Technology in Cancer Research & Treatment 1:365-371.	/
	89.	FATTORI, E., N. La Monica, G. Ciliberto, and C. Toniatti. 2002. Electro-gene-transfer: a new approach for muscle gene delivery. Somat. Cell Mol. Genet. 27:75-83.	/
	90.	LEE, R. C., D. Zhang, and J. Hannig. 2000. Biophysical injury mechanisms in electrical shock trauma. Annu. Rev. Biomed. Eng 2:477-509.	/
	91.	LI, X., E. M. Eastman, R. J. Schwartz, and R. Draghia-Akli. 1999. Synthetic muscle promoters: activities exceeding naturally occurring regulatory sequences. Nat. Biotechnol. 17:241-245.	/
	92.	MARTIN, G. T., U. F. Pliquet, and J. C. Weaver. 2002. Theoretical analysis of localized heating in human skin subjected to high voltage pulses. Bioelectrochemistry. 57:55-64.	/
	93.	MCMAHON, J.M., E. Signori, K.E. Wells, V.M. Fazio, and D.J. Wells. 2001. Optimization of Electrotransfer of Plasmid into Skeletal Muscle by Pretreatment with Hyaluronidase--Increased Expression with Reduced Muscle Damage. Gene Ther. 8:1264-70.	/

Examiner
SignatureDate
Considered

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

+

Substitute for form 1449A/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)			Complete if Known		
			Application Number	10/657,725	
			Filing Date	09/08/2003	
			First Named Inventor	Smith, Louis C., et al.	
			Group Art Unit		
			Examiner Name		
Sheet	6	of	3 Sheets	Attorney Docket Number	AVSI-0010 P1(108328.00154)

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS			
Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
	94.	MIR, L. M., M. F. Bureau, J. Gehl, R. Rangara, D. Rouy, J. M. Caillaud, P. Delaere, D. Branellec, B. Schwartz, and D. Scherman. 1999. High-efficiency gene transfer into skeletal muscle mediated by electric pulses. Proc. Natl. Acad. Sci. U. S. A 96:4262-4267.	-
	95.	MIR, L. M., M. F. Bureau, R. Rangara, B. Schwartz, and D. Scherman. 1998. Long-term, high level in vivo gene expression after electric pulse- mediated gene transfer into skeletal muscle. C. R. Acad. Sci. III 321:893-899.	-
	96.	MOR, G. and M. Eliza. 2001. Plasmid DNA vaccines. Immunology, tolerance, and autoimmunity. Mol. Biotechnol. 19:245-250.	-
	97.	PILARO, A. M. and M. A. Serabian. 1999. Preclinical development strategies for novel gene therapeutic products. Toxicol. Pathol. 27:4-7.	-
	98.	PLIQUETT, U. F., G. T. Martin, and J. C. Weaver. 2002. Kinetics of the temperature rise within human stratum corneum during electroporation and pulsed high-voltage iontophoresis. Bioelectrochemistry. 57:65-72.	-
	99.	STOLL, S. M. and M. P. Calos. 2002. Extrachromosomal plasmid vectors for gene therapy. Curr. Opin. Mol. Ther. 4:299-305.	-

Examiner Signature		Date Considered	
-----------------------	--	--------------------	--

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached.

Burden Hour Statement: This form is estimated to take 2.0 hours to complete. Time will vary depending upon the needs of the individual case. Any comments on the amount of time you are required to complete this form should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, Washington, DC 20231. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Assistant Commissioner for Patents, Washington, DC 20231.

+